these slots. The boring and shoulder work performed on the piece is accomplished by the shovel-nosed tool *O* which is mounted in the tool-holder *P* on the turret. This is an example of a fixture designed for standard work of various sizes coming through in small lots, and which requires extreme accuracy in machining. The fixture is a compact design and it is built close in to the spindle so that, although the fixture itself is heavy, there is so little overhang that the weight is of small importance.

Adjustable Fixtures for the Vertical Boring Mill. — The table of a vertical boring mill is so arranged that it may be used either as a faceplate or as a chuck with provision for clamping in the T-slots when necessary. This is a distinct advantage in many kinds of work and especially so where a number of pieces of similar construction and different sizes are to be handled. Fig. 4 shows a simple fixture for handling three sizes of steel flanges *A.* The base *C* of the fixture is made of cast iron and is centered by a plug *D* in the table hole; and it is fastened down to the table by means of the screws *F* which enter shoes in the T-slots. In the upper illustration, the work *A* has been previously turned, faced and partially under-cut to provide for clamping, and it is held during the first setting by means of jaws on the inside of the flange.

On the second setting (shown in the upper illustration) the operations performed consist of boring the hole, facing the flange as far as the clamps, and cutting the packing grooves 0. The locating ring *B* is slipped on the finished portion of the base and is drawn down by the screws *E.* The clamps *H* are supported at the outer end by the wooden blocks *K,* and are drawn down upon the work by nuts and washers *J* through the medium of the T-bolts *G* which are adjustable radially in the table slots. The boring-bar *L* is used for boring the interior of the flange with the tool *M,* while the side head (not shown) faces the flange and cuts the packing groove. The lower illustration shows the fixture adapted for holding the largest piece *Q* which it handles. In this case, the ring *N* is made of somewhat different shape so that it will locate properly on the